

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Claim 1 (currently amended). A method for detecting fires according to the scattered light principle, comprising:

- (a) emitting pulsed radiation of a first wavelength along a first radiation axis into a measuring volume;
- (b) emitting pulsed radiation of a second wavelength which is shorter than the first wavelength along a second radiation axis into the measuring volume; and
- (c) measuring radiation scattered on particles located in the measuring volume under a forward scattering angle of more than 90° and under a backward scattering angle of less than 90°, wherein forward scattered radiations and backward scattered radiations of the first and second wavelengths are measured separately from each other,

wherein the scattered radiations of the first and second wavelengths are measured on opposite sides of the measuring volume on a same main axis.

Claim 2 (original). A method as claimed in claim 1, further comprising:

- (d) subtracting from signal levels which correspond to measured intensities of the forward and backward scattered radiations of the first and second wavelengths, corresponding scaled quiescent value levels to produce weighted values;
- (e) evaluating the weighted values to determine whether an alarm condition exists; and
- (f) producing at least one alarm signal in response to the determining that an alarm condition exists.

Claim 3 (original). A method as claimed in claim 2, wherein (e) further includes:

- (e1) forming a first ratio between the weighted values of the forward scattered radiation intensity and the backward scattered radiation intensity of the first wavelength;
- (e2) forming a second ratio between the weighted values of the forward scattered radiation intensity and the backward scattered radiation intensity of the second wavelength; and
- (e3) evaluating the first and second ratios to determine whether an alarm condition exists.

Claim 4 (original). A method as claimed in claim 2, wherein (e) includes:

- (e1) forming a first ratio between the weighted values of the forward scattered radiation intensities of the first and the second wavelengths;
- (e2) forming a second ratio between the weighted values of the backward scattered radiation intensities of the first and second wavelengths; and
- (e3) evaluating the first and second ratios to determine whether an alarm condition exists.

Claim 5 (original). A method as claimed in claim 1, wherein the forward scattered radiations of the first and the second wavelengths are measured under the same forward scattering angle, and the backward scattered radiations of the first and second wavelengths are measured under the same backward scattering angle.

Claim 6 (canceled).

Claim 7 (original). A method as claimed in claim 1, wherein the scattered radiations of the first and second wavelengths are emitted into the measuring volume from opposite sides along coinciding radiation axes.

Claim 8 (original). A method as claimed in claim 1, wherein the first wavelength and the second wavelength are not in an integral ratio with respect to each other.

Claim 9 (original). A method as claimed in claim 1, wherein the first wavelength lies in the region of the infrared radiation and the second wavelength lies in the region of blue light or the region of ultraviolet radiation.

Claim 10 (original). A method as claimed in claim 1, wherein the first wavelength is in the region of 880 nm and the second wavelength is in the region of 475 nm or the region of 370 nm.

Claim 11 (original). A method as claimed in claim 1, wherein a pulse/pause ratio of the radiation of the first and the second wavelengths is greater than 1:10,000.

Claim 12 (original). A method as claimed in claim 11, wherein the pulse/pause ratio of the radiation of the first and the second wavelengths is approximately 1:20,000.

Claims 13 – 19 (canceled).

Claim 20 (new). A method for detecting fires according to the scattered light principle, comprising:

- (a) emitting pulsed radiation of a first wavelength along a first radiation axis into a measuring volume;

- (b) emitting pulsed radiation of a second wavelength which is shorter than the first wavelength along a second radiation axis into the measuring volume; and

- (c) measuring radiation scattered on particles located in the measuring volume under a forward scattering angle of more than 90° and under a backward scattering angle of less than 90°, wherein forward scattered radiations and backward scattered radiations of the first and second wavelengths are measured separately from each other,

wherein the scattered radiations of the first and second wavelengths are emitted into the measuring volume from opposite sides along coinciding radiation axes.

Claim 21 (new). A method as claimed in claim 20 further comprising:

(d) subtracting from signal levels which correspond to measured intensities of the forward and backward scattered radiations of the first and second wavelengths, corresponding scaled quiescent value levels to produce weighted values;

(e) evaluating the weighted values to determine whether an alarm condition exists; and

(f) producing at least one alarm signal in response to the determining that an alarm condition exists.

Claim 22 (new). A method as claimed in claim 21, wherein (e) further includes:

(e1) forming a first ratio between the weighted values of the forward scattered radiation intensity and the backward scattered radiation intensity of the first wavelength;

(e2) forming a second ratio between the weighted values of the forward scattered radiation intensity and the backward scattered radiation intensity of the second wavelength; and

(e3) evaluating the first and second ratios to determine whether an alarm condition exists.

Claim 23 (new). A method as claimed in claim 21, wherein (e) includes:

(e1) forming a first ratio between the weighted values of the forward scattered radiation intensities of the first and the second wavelengths;

(e2) forming a second ratio between the weighted values of the backward scattered radiation intensities of the first and second wavelengths; and

(e3) evaluating the first and second ratios to determine whether an alarm condition exists.

Claim 24 (new). A method as claimed in claim 20, wherein the forward scattered radiations of the first and the second wavelengths are measured under the same forward scattering angle, and the backward scattered radiations of the first and second wavelengths are measured under the same backward scattering angle.

Claim 25 (new). A method as claimed in claim 20, wherein the scattered radiations of the first and second wavelengths are measured on opposite sides of the measuring volume on a same main axis.

Claim 26 (new) A method as claimed in claim 20, wherein the scattered radiations of the first and second wavelengths are measured on opposite sides of the measuring volume on a same main axis.

Claim 27 (new). A method as claimed in claim 20, wherein the first wavelength and the second wavelength are not in an integral ratio with respect to each other.

Claim 28 (new). A method as claimed in claim 20, wherein the first wavelength lies in the region of the infrared radiation and the second wavelength lies in the region of blue light or the region of ultraviolet radiation.

Claim 29 (new). A method as claimed in claim 20, wherein the first wavelength is in the region of 880 nm and the second wavelength is in the region of 475 nm or the region of 370 nm.

Claim 30 (new). A method as claimed in claim 20, wherein a pulse/pause ratio of the radiation of the first and the second wavelengths is greater than 1:10,000.

Claim 31 (new). A method as claimed in claim 30, wherein the pulse/pause ratio of the radiation of the first and the second wavelengths is approximately 1:20,000.